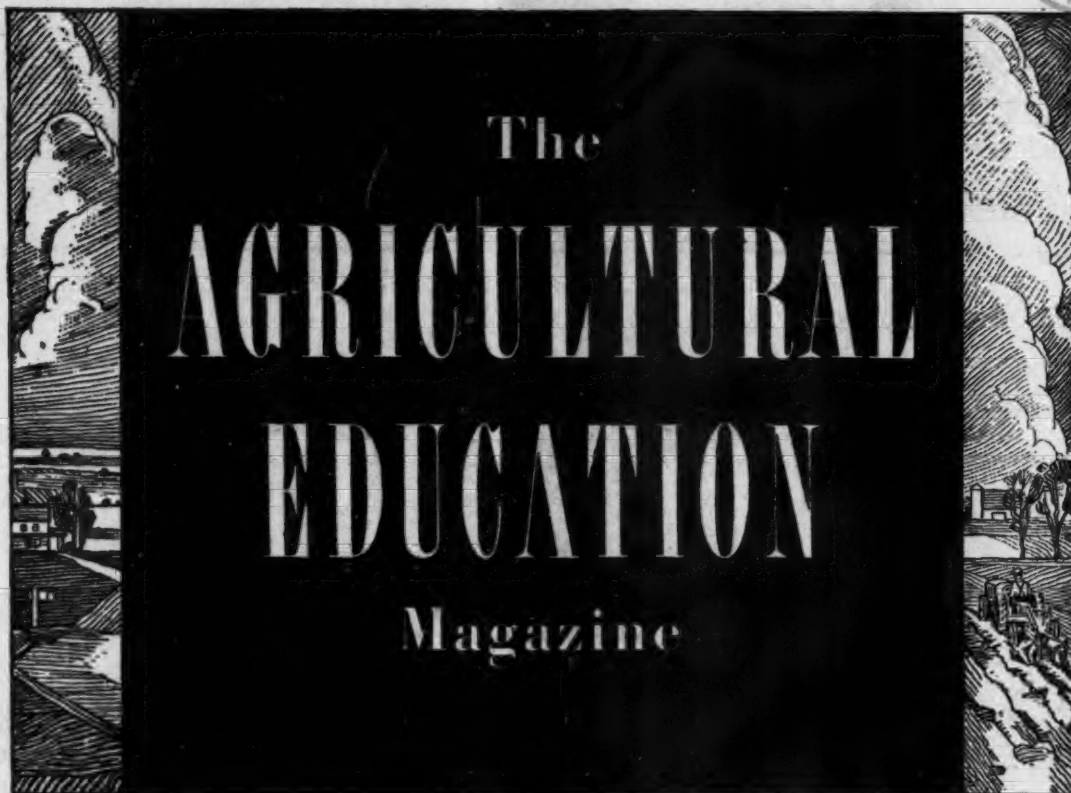


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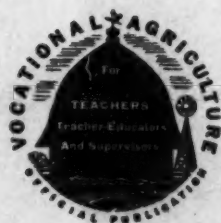
No. 4



VOCATIONAL agriculture meets every criterion which educators have set up for selecting the types of occupational preparation which should be offered in the schools

Rural America Today

—University of Chicago Press



The Agricultural Education Magazine

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Editorial Comment

Schools Develop a New Philosophy

THERE is rapidly developing a new philosophy among school people in certain Southern states regarding the plans of schools for dealing with farm and home problems. In brief, this new philosophy is based on the theory that rural schools must not only deal with *what* and *how* to do, but must also accept the responsibility of seeing to it that *facilities* are provided with *which* to do.

In some states much in this connection is already being done in communities where vocational teachers in agriculture and home economics are employed. Many schools, where facilities for use of farm people are being provided, are rapidly becoming community self-service centers. In one state alone more than 350 community school-owned canning plants are already in existence and are being operated by schools. These plants are used solely by farm families to can adequate quantities of meats, fruits, and vegetables for home use. In communities where these plants are located, the schools are not only dealing with problems of *what* and *how* to do, but are actually providing facilities with which to do.

Imagine a farm mother with a large family, standing over a hot stove half the summer with a few pots and pans, trying to can enough fruits and vegetables to feed her family properly. Then visit one of these modern school community canning plants and see how quickly great quantities can be processed. The thousands of farm families that have used the facilities of these school plants know their real value. These schools are making it possible for farm families actually to follow thru and put into practice the things they learn thru organized instruction. Without the facilities, the teaching for most families would end with *what* to do. Some might go so far as to learn *how* to do. Few, however, would reach the step of actually *doing*.

In a number of states the facilities of school shops are being made available for use of farm people for the purpose of repairing farm tools and implements. During the past few months, thousands and thousands of pieces of farm equipment, ranging all the way from small hand tools to tractors, have been repaired in these school shops. No matter how good a job the instructors might have done in teaching *what* and *how* to do, there would have been few pieces of equipment actually repaired had not facilities been provided with which to do.

There are many school communities where vocational agriculture is being taught that are providing various facilities for use of farm families. In most cases they are meeting a much-felt need. These facilities include small creosote plants for treating fence posts, incubators for custom hatching, hammer mills for grinding feed, saw mills and planing mills for processing timber for farm and home use, potato curing and storage houses, and many other types of facilities. They are being used by farm families to improve their economic condition and to raise their standards of living.

A few schools in the South have established or are in the process of establishing freezer lockers for use of farm families. These small units, which are to be operated by schools, will doubtless do much to conserve food and to make possible, at low cost, a more wholesome diet for farm families.

As rural schools increase usable and needed facilities that cannot be economically provided on individual farms, vocational teachers in agriculture and homemaking will become more and more valuable to the people they serve.—M. D. M.

The Situation Is Serious

TOO few persons in educational circles have any conception of the seriousness of the world situation today.

It is a difficult matter to understand that this nation—great as its productive capacity may be—is still utterly unprepared for war, either mentally or materially. It is hard to understand that great as we are potentially, we are fighting a combination of nations which have prepared and built for this exact situation for years.

Let's face the unpleasant facts squarely and honestly. A lot of men in high education places still have the "business as

usual" attitude. The important items to some of them are the compiling of meaningless, long-drawn reports, the social or political prestige, the annual salary raise, the time and place for a vacation, the completion of a research problem of dubious wartime value.

Next to actual service in the armed forces, there is no greater field for worth-while endeavor than in the national food-production program. Problems have not even begun to appear as yet compared to those we are approaching: shortage of labor, shortage of new machinery, lack of repair parts, rubber tractor tires, sacks, baling wire, fencing—in fact almost anything made of metal.

The vocational teacher who can help mobilize the labor supply of the community in which he lives, or put to use that brought from urban centers; who can teach farmers and farmers' sons how to farm efficiently with less of everything; who can help keep farm machinery going long after it would have been junked in peacetime; who can help keep up rural morale, and above all, help to produce more food for the vast armies the United Nations must have to win this war—that man can be the most important man in his community. The leaders of the various agricultural services are saying that the vocational agriculture teacher can do more than any other man to work closely with the entire farm family, because the children have confidence in him.

Does this teacher have the same confidence in his state and federal superiors that he has inspired in his community? Is he getting the help and leadership from above that he has a right to expect? While he is out in the field early and late, serving on war board committees, managing salvage and War Bond drives, recruiting labor, teaching night classes, and working most of the clock around—how much service is he getting?

It is true that America has not yet suffered a serious invasion. It is true that most of us are still enjoying most of the luxuries and all of the comforts we have known in the past few years. We have been called upon to sacrifice very little—many working people have more since war started, rather than less.

This cannot last. We cannot raise an army of twice its present strength or larger, without giving up conveniences. Men are going to be called to the colors, and those who do not go will have to take over their jobs. We are going to have to work harder and longer and with a single purpose: to win the war. We will have no place in our wartime economy then for these "business as usual" people.—J. A. McP.

A Challenging Book

Rural America Today is one of the most challenging books that has come our way in recent months. It presents and discusses many of the fundamental social and educational problems facing rural youth and adults today. It is a book that should be read by those who are concerned with the problems of the rural people in America. Below is Mr. Davidson's review of the book:

Rural America Today, Its Schools and Community Life, by George A. Works and Simon O. Lesser. Pp. 450, illustrated, published by The University of Chicago Press, Chicago, Illinois, list price \$3.75. This book is devoted to the nation's number one educational problem—rural education. "Many children—few dollars." This sums up the nation's number one educational problem—the teaching of rural youth. A full half of the nation's children are being deprived of that equality of educational opportunity which should be their birthright as American citizens. The situation has serious implications for urban as well as rural dwellers. Rural education in all its aspects is discussed. The authors consider it futile to discuss rural education as tho it pertained to the schools alone, and while the text gives intensive consideration to school problems, there are chapters on such related subjects as rural health, recreation, social welfare, the problems of rural youth and rural Negroes, and community planning. The major emphasis of *Rural America Today* is on the things which are being done by alert rural communities and schools, the states, and the Federal Government to improve education and community conditions. This book will prove helpful to vocational agricultural instructors and others who are interested in the educational and social problems facing rural areas and the nation.

A. K. GETMAN

Professional

R. W. GREGORY

How Shall I Sell?

R. C. ASHBY, Chief, Livestock Marketing, University of Illinois

THE question, "How shall I sell?" is of basic importance, whether the stockman asking it is a vocational student with his first marketable pigs or calves or a veteran of 50 years' experience. Effective marketing of livestock is a complex job, one of the most difficult encountered in the selling of any major agricultural commodity.



R. C. Ashby

Suppose that you and I are responsible for the marketing of some animals that have been fed as a livestock project and are now ready to sell. How shall we go about it?

First, we would probably note what channels of sale, what market outlets, are available for the sale of this livestock—to responsible local buyers, thru local livestock markets or auctions, or by shipment to larger markets. We would list probable transportation expense to each outlet, selling expenses at each, probable shrinkage, accuracy and reliability of the weights, and the price we could expect to get. Putting all of them together, we would get a close estimate of the net return we could expect at any of the available outlets.

Well, you say, that doesn't sound very complicated or difficult. Is that all there is to livestock marketing? No, there is much more than appears at first glance. Thus far we have considered it from just one single location, one viewpoint. Try to look at it now from the viewpoints of all the country's vocational agricultural students, at one and the same time. Quickly we begin to see that effective livestock marketing is a national problem as well as a local one; that whether anyone can do a good job of selling locally may depend to a large extent whether a good job is being done nationally.

You have heard it said that the bulk of the country's meat is produced west of the Mississippi River and the bulk of it eaten east of it. But have you ever figured how far a railroad hauls a shipment of lamb going from California to New York City, or beef from Colorado, or pork from Iowa? Do that and you will begin to see this question of livestock marketing in its national setting.

What are some of the problems involved? They are many. We can touch only a few of them here.

Who Buys All the Livestock Sold in This Country?

The U. S. Department of Agriculture reported in 1939 that, of 621 concerns, 196 slaughtered livestock under Federal

inspection, and that 425 concerns slaughtered without having Federal inspection. (Federally inspected slaughter comprises over two-thirds of the total commercial slaughter.) But if we go further into available figures we find that of the total U. S. Federally inspected slaughter, the four largest packing concerns take 52 percent of the hogs, 65 percent of the cattle, 71 percent of the calves, and 80 percent of the sheep and lambs. So, while over 600 companies slaughter meat animals, of the total Federally inspected slaughter, the four largest buyers take more than five of every 10 hogs, six and one-half of every 10 cattle, seven of every 10 calves, and eight of every 10 sheep. Moreover, the buying of these four largest concerns is highly organized, conducted on a very definite national basis, and operated by the most skillful buyers in the land. A good question to ask yourself, here, is whether livestock selling—as you have observed it—is conducted in anything like a comparable way.

How Are Livestock Prices Established?

This is a difficult question to answer in a brief way. The common explanation is that supply and demand determine prices, but that means nothing until we know what is meant by *supply* and by *demand*—too long a discussion to take up here. Suffice it to say that buyers for slaughterers represent the demand for livestock, while sellers of livestock represent the supply side. Each side tries to interpret conditions in its own favor—buyers seeking lower prices, sellers seeking higher prices. Thru bargaining on the large livestock markets they gradually arrive at a basis of prices on which selling and buying are carried out. Only to the extent that the sellers are as well informed as the buyers, as skillful in interpreting that information, and as able in bargaining on the livestock, will the prices arrived at be as fair to the selling side as to the buyers. In the very nature of the business the buying side is usually better informed than is the selling side.

What Part Do the Public Stockyards Play?

The larger the market the more influence the public stockyard usually has on prices; because more buyers compete there, thus affording more buying competition and a broader demand for all kinds of livestock; because the largest markets present a broader cross section of the supply-demand situation; and because sellers are represented by salesmen who are better informed and are skillful bargainers. Each large public market is the dominant influence on country livestock prices thruout its trade territory. For example, in one important state, 20 packing concerns, some plants located in the country, some at public stockyards,

but all buying livestock at country points, were asked recently how they determined the prices they paid for hogs. Without an exception every one said their hog prices were based directly on the central livestock market in whose territory they were located.

Why Hire Salesmen to Sell My Livestock?

An excellent answer is given by an executive of one of this country's largest packers as follows: "We are paying big salaries to get the best men possible for buying, and we are paying big salaries to branch-house managers and sales managers who use their ability to get the highest price possible for meat. . . . We want to buy animals as cheap as we can and sell our meat at the best price we can obtain. . . . It has got to be an experienced salesman who can match our buyer." Obviously, then, effective livestock selling is a highly technical job and requires skill and training and experience. On the large markets with which I am personally acquainted, many of the leading salesmen have formerly served as successful livestock buyers for packers, thus being thoroly familiar with both sides of the market.

Many stockmen overlook the value of having their selling done by qualified men who are on the market all the time. Even the best salesmen and the best buyers, if they have been away from the market for even a week, do not resume selling and buying the first day they are back in the yards. Instead they take one day to get posted on the market. For example, the head cattle buyer for a large packer on one of the largest markets was away from the yards for an entire week. The next Monday he was back on the job but was not buying any cattle. A friend asked him why. He replied, "Why, I've been off this market for a whole week. My company would not permit me to buy today. Instead I'll spend today with my buyers, getting posted again on the market. Tomorrow I will be back buying cattle." Stockmen who want their livestock well sold can do no better than to study how packers operate livestock buying.

Livestock Marketing Costs

Always the question of livestock marketing costs comes up. What are they? Are they merely the costs of getting livestock from feed lots to packing plant, or do they represent the entire difference between the price the consumer pays for meat at retail, and the value of the livestock at the farm? The latter is now the accepted view.

As a result of a 10-year study the University of Chicago analyzed the distribution of the consumer's retail meat dollar as follows:

Value of the meat at retail. . . . \$1.00
Margin for retailing function.26

Value of the meat at wholesale. . . .74
Margin for the wholesaling function. .05

Value of meat at plant.....	.69
Margin for processing function15

Market value of livestock.....	.54
Margin for livestock marketing function.....	.04

Farm value of livestock.....	.50
------------------------------	-----

The \$.04 for marketing function included all transportation and all marketing expense between the farm and the packing plant. Much less than two cents of the entire marketing cost went for stockyards and selling expense.

Packers' and Producers' Interests Not the Same

Sometimes we are told that producers' and packers' interests are common. This definitely is not true. The best answer to that statement was given by Mr. A. F. Sinex, a prominent packer operator in Iowa, in these words: "We, as packers, have our interests, the farmers have their interests, and other agencies their interests, and all of us will protect our own interests." He hit the nail right on the head. If stockmen want their livestock marketing job well done, they must look after it themselves.

How Can Stockmen Do the Job?

In talking to students in my classes in livestock marketing, I list four conditions as essential to effective livestock selling:

1. Employing salesmen who are competent to interpret supply and demand conditions, to know what any given lot of livestock should sell for on that day's market.

2. Employing salesmen who are equal to the buyers in experience, training, and bargaining ability.

3. Sufficient volume of livestock in the hands of salesmen to give them effective bargaining power.

4. Sufficient buying competition in the market to enable salesmen to develop the full strength of the market.

To the extent that these conditions are realized stockmen will have effective livestock selling.

Shall Open Markets Be Maintained?

A question basic to all livestock marketing is whether public markets—open, competitive markets—shall be maintained, and whether stockmen will continue to employ trained salesmen to do their livestock selling. Powerful interests are working night and day to weaken the public markets. Already over one-half of the hogs, one-third of the calves and lambs, and over one-fourth of the cattle pass from producer to packer without going thru the public markets.

The public markets are not perfect, but they are the best system yet devised for effective selling of the country's slaughter livestock. Thus far no adequate substitute has been demonstrated. Whether the open market is to survive will be decided by just one group of people—the livestock producers. Only a few weeks ago a leading packer said to me, "I can't say this publicly, but I can say it to you: If the livestock producers of this country ever give up their open, competitive

(Continued on page 73)

Evacuation of Aliens and Its Effect on Vocational Agriculture

WEIR FETTERS, Regional Supervisor
California State Bureau of Agricultural Education

IMPORTANT developments and adjustments have been made in California vocational agriculture as a result of the evacuation of Japanese from more than 6600 farms on the Pacific Coast—principally in California.

The most important developments have been:

- (1) Availability of about 230,000 acres of land—virtually every acre of it highly productive—to land-hungry Young Farmers and Future Farmers; with the transfer made highly feasible thru liberal loan arrangements.

- (2) Reduction of the number of vocational agriculture students in California schools by several hundreds.

- (3) Necessity of vocational agriculture teachers learning "tricks of the trade" in vegetable production.

No estimate has been made of the number of recent vocational agriculture graduates or those leaving school this year who have been able to get land as a result of the Japanese evacuation. It is known to be considerable. In addition to actual transfer of leases to individuals, a number of tracts have been taken over by Future Farmer chapters to operate on a co-operative basis.

Future Farmers Get Farms

In the Sonoma County area alone, Japanese poultry farms with a total capacity of 55,000 laying hens have been taken over by four boys—three of them graduating from high school in June, 1942, and one of whom dropped out of school last year because of illness. In the Santa Maria Valley seven tracts of rich vegetable crop land were taken over by Young Farmers and Future Farmers still in high school.

As a result of this situation, the food production so essential to winning the war has been continued almost without interruption, and many young farmers who would otherwise have been partners at home or laborers have had an opportunity to get into an enterprise of their own management.

Financing Farms

The transfer of farms was greatly aided by the Farm Security Administration, acting thru the army's Wartime Civil Control Administration. Thru this agency several hundred loans have been made to new operators, averaging \$4800 each and varying from \$250 to \$45,000. These loans were limited to those who appeared qualified to farm but were unable to secure satisfactory credit from the usual loaning agencies. In addition to the amount loaned by FSA, however, it is estimated that twice this sum or more was loaned to new operators by banks and other government agencies.

Students Reduced

The second effect has been in reduction in numbers of vocational agriculture students. Several hundred Japanese boys

were enrolled in agricultural classes and were outstanding students. Many were chapter officers and led in developing co-operative movements. For the most part, they were as intensely "American" as the rest of the boys in the chapters.

Thruout California, Japanese were generally located in areas suitable to fruit or vegetable growing and to some extent poultry. This resulted in considerable concentration, such as in southern Merced County and Placer County. Here the reduction of Japanese students is considerable—elsewhere, it means two or three per chapter.

Since the population trend is almost entirely from the country to the city, these agricultural students will not be replaced by non-aliens. As already indicated, the farming land has been taken over by neighboring operators, by young men, or by the big farming corporations. In no case does this mean new rural population.

New Demands Made on Teachers

The third effect has been to bring vocational agriculture teachers much more closely in contact with an extremely speculative and specialized type of agriculture than ever before. For example, in one area a Japanese family was moved from a tract of 10 acres suitable to growing cantaloupes. The melon business had largely been in the hands of Japanese and the agriculture teacher had paid little attention to the many unusual practices necessary to produce a crop of cantaloupes under existing conditions.

The agriculture teacher and his teaching assistant took over the 10-acre tract themselves. They had to learn the secrets of planting, of setting "hot-caps," of thinning (which includes distinguishing the "sex" of the vine,) of breaking the caps, removing the wire, dusting for diseases, and other practices. They estimated that they would have \$2000 invested in the crop up to harvest—and a hailstorm, hot spell, grasshopper infestation, or other calamity could wipe out their investment virtually overnight!

Many agriculture teachers have not only taken over farming areas for their own operation, but have suddenly found themselves called upon to advise their Future Farmers and Young Farmers in practices which the teacher had not previously learned because all of the crop was grown by Japanese. Of the 11,000 acres of strawberries in California, at least 95 percent were operated by Japanese—with the evacuation, few persons knew how to carry on.

Incidentally, in the evacuation process, there has been complete co-operation. Evacuated families have remained on the land as long as permitted, helping the new lessees to learn the operations. Some Chinese families have taken over Japanese land, and Nipponese have worked side by side with the Chinese, showing them how to plant celery, harvest asparagus, cut artichokes, and start tomato plants.

Methods

A. M. FIELD

An Analysis of Swine Project Records

RALPH E. BENDER, Instructor in Agricultural Education
The Ohio State University

ONE of the most difficult tasks of the teacher of vocational agriculture is to get his students to develop and to use neat, complete, and accurate records of their farming programs. In far too many cases boys are keeping records because they have to and the records consist of a series of estimates or guesses. Undoubtedly, some of the difficulty can be traced to the fact that both teacher and students do not realize the use that can be made of records. Naturally, if records aren't used as the basis for analyzing the results obtained and the reasons for the results, there is little incentive for a boy to keep records. Interest is present in good teaching, and likewise, it must be present in good accounting. It is reasonable to expect interest in the student when he knows that he can use his records and the records of other boys in order to point the way to greater success in his farming program.

According to H. G. Kenestrick, of Ohio State University:

"Individual farming programs can be developed most effectively only if accurate, adequate records are kept and used purposely at each of the various stages of development. In making the appropriate decisions connected with selecting, planning, and improving his program, a boy needs to deal with certain facts. Some of these facts are related to his own farming program, and some to the farming programs of other boys. Some of these facts need to be recorded statistically so that they can be dealt with rather specifically instead of only in general terms. It is hardly enough for a boy to have a general impression that after spending a summer growing a crop of corn and raising some hogs that he has done 'pretty well.' If he is able to establish definitely the point that for each dollar's worth of feed used the hogs grossed two dollars, or that after making due allowance for all other production costs, and putting a conservative farm value on the corn in the crib, he and his father had earned 50 cents for every hour of labor put into the crop, and if he can point out the reasons why, he has something definite on which to base his judgement of his efficiency as a farmer."

Efficiency Factors

Mr. Kenestrick inferred that a way to measure efficiency was thru the consideration of certain factors. For example, in the swine enterprise some of the effi-



R. E. Bender

ciency factors are: cost of 100 pounds of pork, returns per one dollar's worth of feed used, labor income per hour, number of pigs raised per litter, and pounds of pork produced per sow. It is apparent that we need to know more than the factors, we need to know the facts. Assuming that the records are correct, there is no better place to secure the facts than from the boys in the local department who have conducted swine projects during the past year. By securing these facts we will be able to compare the efficiency on at least a relative basis, even tho we do not have an established standard. Here are some facts:

Project Number	Total Cost Per 100 Pounds of Pork
1	\$ 4.21
3	4.86
13	6.31
15	7.10
16	8.60

We can tell from observation that there were differences in the cost of producing pork in the different projects. Why were there differences? It seems that we ought to know some of the other facts on efficiency and then associate them with the

practices used. With that kind of information available we would be in a position to evaluate and make recommendations to the boy for further improvement. Therefore, let us proceed on this primary assumption. We need to analyze our farming program records in order to secure some local facts on efficiency of production. These facts need to be interpreted with a consideration of practices used if they are to serve as a basis for making improvements.

Procedure in Making an Analysis

Undoubtedly there is no one best method or procedure to follow in making analysis of the records of any enterprise. The author has made a rather intensive analysis of the swine enterprise since 1938, primarily for use in the Canal Winchester community. The procedure and the analysis are herewith presented as representing a way, rather than the way.

1. Check Record Books for Completeness and Accuracy

If the figures used in the analysis are dependable and worth while it is necessary to check each of the record books for completeness and accuracy. This check, which is made by both the student and teacher, should be made before the project is summarized and analyzed and

TABLE I
A COMPARISON OF 30 SOW AND LITTER PROJECTS
CANAL WINCHESTER—1940

The Items Selected Are Those on Which All Projects Can Be Compared

Project Number	Number of Sows	Number of Litters	Number of Pigs Per Litter	Pounds of Pork Per Sow	Labor Income Per Sow	Labor Income Per Hour	Returns Per \$1 Worth of Feed	Comments
1	4	4	10.7	2291	\$37.31	\$ 1.77	\$ 1.77	These 17 sow and litter projects, which are listed according to cost of production, represent normal and regular cycles of production. The records on each of these projects are for the breeding to marketing period. They can be used for comparison and analysis purposes.
2	10	10	9	2036	36.34	1.15	1.49	
3	2	2	8.5	1880	52.46	1.25	1.80	
4	1	1	9	1860	34.10	.37	1.47	
5	3	3	4.7	1047	17.11	.69	1.29	
6	2	2	9	1902	9.94	.21	1.35	
7	1	1	8	1660	28.42	.38	1.43	
8	1	1	8	1760	37.45	.50	1.62	
9	1	1	9	2030	44.98	.65	1.56	
10	1	1	7	1480	20.31	.29	1.36	
11	1	1	11	2475	19.85	.21	1.23	
12	1	1	9	1890	32.72	.57	1.71	
13	1	1	8	1200	8.31	.12	1.33	
14	2	2	7.5	1438	10.32	.09	1.22	
15	1	1	5	1040	11.45	.12	1.30	
16	1	1	3	600	-2.19	-.03	1.12	
17	1	1	5	940	-20.36	-.24	.82	
AV.	2	2	7.7	1619	\$15.33	\$.48	\$ 1.40	

Irregular Projects That Cannot Be Analyzed in Detail

18	4	4	5.8	1148	28.76	.63	1.52	Records were not kept on each separate litter, but rather as a group. Litters were farrowed at variable periods. Sold hogs at 60 lbs. weight. Sold two pigs at weaning. Sold pigs at weaning.
19	11	11	8.4	1261	22.74	.84	1.44	
20	8	8	5.5	966	9.60	.43	1.36	
21	10	10	5.3	1005	2.68	.06	1.18	
22	1	1	9	540	11.69	.49	1.69	
23	1	1	7	1205	1.14	.02	1.11	
24	1	1	10	350	14.81	.42	1.56	
25	1	1	7	210	-.58	.02	1.50	
26	7	7	7	245	-3.17	-.02	.81	
27	1	1	4	995	2.99	.04	1.27	
28	1	1	1	175	-.9.15	.15	.55	Three hogs died at 100 lbs. wt. Record not kept by periods. Only one dead pig farrowed. Sow did not conceive.
29	1	1	0	—	-18.29	-.70	-.51	
30	1	1	0	—	-15.65	-.49	-.13	
AV.	3.6	3.6	5.4	623	\$ 3.74	\$.21	\$ 1.05	
Grand AV.	2.7	2.7	6.7	1187	\$10.91	\$.36	\$ 1.25	

TABLE II. A COMPARISON OF REGULAR SOW AND LITTER PROJECTS*—CANAL WINCHESTER—1940

(Listed According to Total Cost Per 100 Pounds of Pork)

Project Number	Number of Litters	Breeding to Marketing Period										Breeding-Weaning					Weaning to Marketing	
		Number of Pigs Raised Per Litter	Pounds of Pork Produced Per Sow	Labor Income Per Sow	Labor Income Per Hour	Pounds of Feed Per Pound of Pork Produced	Returns Per \$1 Worth of Feed	Feed Cost Per 100 Pounds of Pork	Total Cost Per 100 Pounds of Pork	Average Selling Price or Inventory Value Per 100 Pounds of Pork	Hours of Man Labor Per 100 Pounds of Pork	Total Pounds of Feed Per Litter	Feed Cost Per Litter	Average Daily Gain Per Pig	Pounds of Feed Per Pound of Gain in Period	Returns Per \$1 Worth of Feed in Period		
1	4	10.7	2291	\$37.31	\$1.77	2.78	\$1.77	\$3.88	\$4.21	\$6.67	.91	610	\$ 8.45	1.1	3.3	\$1.67		
2	10	9	2036	36.34	1.15	3.3	1.49	4.19	4.77	6.29	1.6	1210	13.58	1.5	3.2	1.39		
3	2	8.5	1880	52.46	1.25	2.9	1.80	3.95	4.86	7.23	2.2	1512	17.98	1.5	2.8	1.96		
4	1	9	1860	34.10	.37	3.9	1.47	4.31	5.08	6.30	5.0	1354	14.06	1.2	2.8	1.41		
13	1	8	1200	8.31	.12	4.03	1.33	4.42	6.31	5.91	5.4	1809	20.01	1.4	3.8	1.54		
14	2	7.5	1438	10.32	.09	4.3	1.22	5.11	6.98	6.25	8.1	1280	12.75	1.1	4.2	1.10		
15	1	5	1040	11.45	.12	4.1	1.30	4.70	6.10	6.10	9.7	1150	10.18	1.1	3.6	1.31		
16	1	3	600	-2.19	-.03	6.2	1.12	5.68	8.60	6.35	11	1388	11.87	1.0	4.5	1.34		
AV.	2	7.73	1619	\$15.33	\$.48	3.93	\$1.40	\$4.61	\$5.99	\$6.30	4.8	1355	\$14.36	1.2	3.6	\$1.41		

*Only 8 of the 17 are listed here in order to save space.

again after the individual summary and analysis are made. If good records have been kept and checked during the year there should be no great difficulty at this point. If, however, the records have been carelessly kept, the analysis made would be of doubtful value.

2. Account for All of the Projects

It is particularly important to account for all projects in making an analysis of an enterprise. The purpose of an analysis is to determine how efficient the project was, rather than to prove that it was efficient by selecting only a few of the records. There were 30 sow and litter projects in the Canal Winchester Department in 1940, all of which are accounted for in Table I.

An examination of Table I indicates that certain efficiency factors were used as a basis for comparison and that the comparison is divided into two groups. The efficiency factors selected were those on which all projects could be compared. The two groups represent the regular and the irregular projects. The 17 regular projects are those which represent records from breeding to an average market weight of at least 150 pounds per head. Irregular projects are those which have characteristics limiting their use for

analysis purposes, such as sale of pigs at weaning or failure of sow to conceive. A comparison of the regular and irregular

groups shows a widespread difference on such factors as pounds of pork per sow and labor income per hour. This illus-

Table III. Some Factors Influencing Differences in Sow and Litter Projects* Canal Winchester—1940

Project No.	Breeding	Feeding	Sanitation	Marketing	Miscellaneous
1	A purebred Poland China sow, a purebred Chester White sow, and two crossbred sows all bred to registered Poland boar. Sows were flushed.	Self-fed a ration 40% Porkmaker and corn. Hand-fed ground wheat. Tankage added during gestation. Red clover pasture. Pigs fed in a creep.	Two new houses. Old ground. Pigs were wormed. Treated for Cholera.	Sold hogs to Columbus Producers from Sept. 7 to Oct. 10. Average 221 pounds. Gilt kept for breeding stock.	Made an official ton litter. Pasture was very good.
2	Nine purebred Poland China sows & gilts and one Duroc Jersey sow bred to Poland boar. Excellent-type sows were flushed.	Hand-fed corn and self-fed soybean oil meal and tankage. Pigs fed in a creep. Bluegrass pasture.	Houses cleaned thoroughly. Sows' sides and udders brushed before farrowing.	Sold hogs to local dealer September 25. Average 226 pounds.	An excellent job of feeding and management. Ten tons of pork from ten sows. Six official ton litters.
3	One registered Duroc Jersey gilt bred to registered boar and a grade Duroc bred to a Poland boar. Sow and gilt flushed.	Self-fed shelled corn and a supplement of tankage and soybean oil meal. Bluegrass pasture.	Pigs kept on clean ground until 65 pounds in weight.	Sold five gilts and boar for breeding stock. Market hogs sold to local dealer on August 18. Average 235 pounds.	Exhibited at County Fair. Produced an official ton litter.
4	A Chester White gilt bred to a Chester White boar. Gilt was flushed.	Hand-fed corn and skim milk. Small amount of ground wheat used. Clover pasture.	Clean ground.	Sold hogs to local dealer October 23. Averaged 207 pounds.	Very good pasture. Corn was somewhat limited.

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Table IV. Relationship of Returns Per \$1 Worth of Feed Used in the Breeding to Marketing Period to Other Efficiency Factors Taken From 17 Sow and Litter Projects—1940 Canal Winchester School

Items for Comparison	Average of All Litters	Range in Returns		
		Per \$1 or More	Worth to \$1.50	of Feed or Less
<i>Breeding to Marketing Period</i>				
Number of litters	17	5	6	6
Returns per \$1 worth of feed	\$1.40	\$1.69	\$1.41	\$1.16
Number of pigs raised per litter	7.7	9.0	8.3	6.3
Pounds of pork produced per sow	1619	1970	1670	1267
Labor income per sow	\$15.33	\$40.98	\$22.90	\$ 6.03
Labor income per hour	\$.48	\$.95	\$.42	\$.14
Pounds of feed per pound of pork	3.9	3.3	3.9	4.5
Feed cost per 100 pounds of pork	\$4.61	\$4.02	\$4.44	\$5.42
Total cost per 100 pounds of pork	\$5.99	\$5.19	\$5.41	\$7.23
Selling or inventory price per 100 pounds pork	\$6.30	\$6.67	\$6.13	\$6.12
Hours of man labor per 100 pounds of pork	4.8	2.7	3.9	7.3
<i>Breeding to Weaning Period</i>				
Total pounds of feed per litter	1355	1329	1479	1313
Feed cost per litter	\$14.36	\$14.89	\$15.04	\$13.22
<i>Weaning to Marketing Period</i>				
Daily gain per pig	1.2	1.3	1.3	1.0
Pounds of feed per pound of gain	3.6	3.1	3.6	4.0
Returns per \$1 worth of feed	\$1.41	\$1.69	\$1.40	\$1.18

trates the reason for accounting for all the projects, facing the situation as it exists.

3. Make a Detailed Comparison of All Regular Projects

A detailed comparison of all of the regular projects should be made and listed on a chart according to some significant efficiency factor, such as cost of production, as is the case in Table II. By following this procedure it is much easier to see the relationship of the factor. Mr. Kenestrick states:

"Care should be taken to avoid any tendency on the part of boys to consider the arrangement of project listings as being designed to show who is best. This is not a competitive matter, but an analytical procedure. It is an attempt to find out just how well one did, and what are the underlying reasons. The grouping is designed primarily for convenience."

In order to understand better the underlying reasons for the results obtained it is well to compare the practices fol-

(Continued on page 78)

Supervised Practice

C. L. ANGERER

Supervised Practice Programs Assist in Establishment in Farming

HENRY M. DAVIS, Teacher, Berryville, Virginia

WE SOMETIMES feel that our efforts in planning long-time programs are not justified, as many of the boys do not continue to farm. This should not discourage us too much, for even if only one out of five stays on the farm the long-time programs will be rendering a service to the community, as these boys will be the backbone of future farming.

I have found that the boys with the best supervised practice programs are the ones most likely to continue farming after their school years. There is a challenge to both the teacher and the boy to develop a good long-time program. The agricultural instructor soon finds himself with a well-balanced teaching program as he tries to tie up the instructional programs with good farm management. Thru this type of teaching the boy begins to feel as if he is being trained for some definite occupation. In carrying out the program, the boy develops a certain amount of confidence which makes him feel that he can manage a farm. Thru this feeling the boy sometimes is influenced to continue farming.

Supervised Practice and Establishment in Farming

From this introduction we might say that the boys who are most likely to establish themselves in farming are those who follow a good supervised practice program. This planning starts in their freshman year and includes such enterprises as baby chicks, heifers, colts, gilts, and the like that will develop into larger enterprises. Ownership of these enterprises is very important, too, as the boy should save his money to establish himself in farming after his school days.

For an example, I am listing the four-year supervised practice program carried out by Harvey Kercheval, a boy who is now gradually establishing himself in the farming business:

First year:

A brood sow
300 broilers

Second year:

2 brood sows
2 acres corn

Third year:

2 brood sows
7 pork
2 acres corn
2 acres wheat

Fourth year:

1 brood sow
6 gilts
40 pork
13 sheep
4 acres barley
2 acres wheat

In carrying out this program Harvey received valuable training and built up

assets worth around \$500 which are now the basis of his farm business. He still feels that he is not ready to run a big farming unit, so he is still farming with his father. However, he plans to rent a farm next year on his own responsibility. He is making a special effort this season to have a fair-sized unit of livestock on hand when he rents the farm. This year he has 100 percent ownership of the following enterprises:

1 brood mare to raise his workstock
2 purebred gilts
2 heifers
19 ewes
7 acres corn

His father will help him to secure necessary machinery by sharing some of his and endorsing notes for other.

Inducting Into Farming

If we expect our good farmer prospects to farm after high-school days, we as agricultural teachers must teach, talk, and work with these boys as if we fully expect them to continue farming. In some cases we lose a prospective farmer by failing to talk with the boy and his father about the possibilities of getting the son established in farming. If the first efforts do not materialize, do not pass up later opportunities to bring up the subject if you feel that the boy really has farming possibilities. Just a few days ago I got a boy to work out a 50-50 partnership in farming with his father after I thought Clarke County had lost him to a defense factory. In fact, he was asking me to write him a letter of recommendation for a defense job when the subject of farming was brought up again by me. I told him I would write the letter, but I hated to do it when he had a real opportunity to become established in farming with his father, who is now getting along in years. Two days later he came to me and said, "I am going to stay on the farm." This boy, Charles Clevenger, graduated from high school in the spring of 1941.

From my experience, I feel that we should spot our worth-while prospects and continue to guide them towards farming. Even if they get jobs in other occupations, ask them to compare the opportunities of their job with those they could have in farming. I had one boy come back and set himself up in farming business with his father after he had worked at other jobs for a year. I do not mean to imply that we should shove all our boys into farming, but after working with them for four years, we usually know the ones to encourage.

Supervised Practice Develops Leaders

To have several boys plan and carry out good, long-time, supervised practice

programs is one of the best ways to get your department well established. These programs render a service to the community and help the instructor to broaden his teaching program by bringing in many practical farm management problems. I find that these boys form the nucleus of our Junior Farmers' Club at Berryville. They were the backbone of our farm-machinery repair program. Not only did they bring in their machinery for repair, but they also brought in and repaired some machines for their neighbors. They are willing to experiment with new seed, fertilizer, and other farm management practices.

During my six years of teaching in Clarke County, I have aided 12 boys in establishing themselves in the farming business. Here are five main factors that influenced their decisions:

1. From their training they were confident of their ability.
2. They had enough enterprises and assets when they graduated from high school to farm a small unit.
3. Opportunities in farming had been pointed out to them.
4. They liked farming.
5. Prospects of taking over the home farm were good.

Adults Plan to Meet Production Goals

R. L. BARRON, Assistant Supervisor
Austin, Texas

"I HAVE never seen such large crowds at farmers' meetings, and I know the farmers in this area are going to meet every expectation of our Government in the trying days ahead," is the way C. B. Senter, vocational agriculture teacher at Van, Texas, sums up the progress of the agricultural work in Van Zandt County.

In this county in east Texas, once known as the "Free State of Van Zandt," the agricultural agencies and farmers are co-operating almost 100 percent in furthering the Food for Victory Program, according to Senter.

All Agencies Co-operate

Meetings for farm men and women are held twice monthly at Van under the direction of the agriculture and home-making teachers, with the idea of helping the farmers to conserve their products and to aid them in reaching their production goals. All the transportation to and from these meetings is provided by the use of six of the many school busses owned by the Van Schools, as a means of conserving rubber. Similar meetings are held thruout the county with the Van vocational teachers and other agricultural agencies taking part in the meetings.

News letters keep the farmers informed on various current agricultural happenings and contain timely suggestions from the agricultural workers.

Suggested Supervised Farm Practice

T. C. MARTIN, Teacher and Principal, Hughesville, Maryland

SUPERVISED practice is the most important part of agricultural work, and I am afraid it gets too little emphasis from many of us agriculture teachers. Too many boys have no incentive whatsoever to produce an outstanding project. To them it is just one way of getting that necessary point for graduation. Such an attitude toward their work and such an outlook defeat the purpose of supervised practice before it is begun. One may have his plans, methods, and techniques developed to a fine point but may fail if there is no incentive for progressive project work.

Project work involves putting into practice what has been demonstrated and explained in the classroom. We can paint beautiful pictures or make blueprints of how to produce an excellent garden or tobacco crop, but blueprints are awfully hard to follow when one goes on the job by himself—unless he has had hours of previous practice to help him over the obstacles. The farm boy will do about such a job of farming as the city "book farmer" if he has had no practical experience in supervised practice.

Boy Needs to Know Objective

I have had few projects that were successful when the boy did not see from the beginning that he was going to get economic or social gain. A boy will go very enthusiastically about his project work if he has some assurance that he is going to get \$300 from his tobacco project and in addition \$25 or \$30 in prize awards for exhibits at local and state fairs. A Farm Bureau medal awarded him before all the outstanding members at the state convention is no small incentive to work.

To make the project an economic success, the idea must be sold to the parents. After all, many farmers believe that vocational agriculture teachers are book farmers. After gaining the consent of the parents to supervise the project, the teacher must see that the project turns out as expected. Regular visits, not just an occasional visit, will increase the confidence of both boy and parent.

Example

I have in one of my classes a boy of an excellent type who lives with his aunt and uncle. His uncle has a small farm. The land is poor, but he has some good tobacco soil. The uncle is of the old school and does not believe in "new fangled" ideas, such as side-dressing tobacco or top-dressing any kind of grass crop. When I first started to supervise the boy's projects, the entire family was disinterested and unconcerned, almost to the point of rudeness at times. However, knowing the boy was good timber, I kept on working with him. Two years ago this boy received permission from his uncle to work his one acre of tobacco as he wished, so we carried out a few modern methods. Nature being very obliging, the crop grew abundantly. It even rained just after we had side-dressed the tobacco. The result was that the tobacco grew so well

that the uncle invited neighbors in to see the project. No visitors could get away without seeing the crop. When I made my visits, he always insisted on accompanying his nephew and me to inspect the progress of "our crop," as he now called it. During the past year the uncle followed our method of tobacco culture and now has an excellent crop in his barn.

During the first year, the boy grew \$95 worth of tobacco on his acre. The second year he grew a \$340 crop. In all his project work, both tobacco and poultry, he has earned more than \$850 in the three years of farm practice, and still has his fourth year to look forward to. This year's crop will be on an enlarged scale. He will have also a poultry project of 200 hens.

This pupil's project work was so suc-

cessful that his uncle has built a new poultry house 18 x 30 ft. He built the most modern-type chicken house, and has filled it with modern equipment.

State Farmer

The past year this boy was raised in rank to a Maryland Farmer, and his uncle and aunt are very proud of their nephew.

This supervisory practice work requires patience, diplomacy, and, above all, plenty of hard work. A close check-up means the difference between success and failure.

In the preceding example, the success, I'm sure, was not only in the excellent results obtained by the boy but also in the benefit derived by the uncle. Furthermore, not only was the effect favorable in respect to the uncle's enlightenment but also in the influence on the neighborhood farmers. In addition, it gained no small amount of prestige for the F.F.A. chapter of our high school.

Methods of Setting Up Projects

C. R. RABB, Teacher, Hillsboro, Texas

EACH fall when school opens the first-year boys' question is, "What do I have to carry as a project?" I keep putting the boys off for about the first four weeks of school until they are ready to answer the question for themselves.

Helping Boys to Make Decisions

This is the way I help the boys make their decisions: (1) We determine the cost of production for the leading enterprises of our community; (2) we study the records of projects of previous years; (3) I ask the boys this question, "In what projects are you interested?" In my opinion this is the most important point for a teacher to consider in helping a boy select his project program. By all means be sure that you have found the boy's interest before you encourage him in a program. (4) Will his interest grow? This is a phase of guidance that must be handled very cautiously or else the student will likely get into a program that will be too costly for him. Let the boy gradually grow and learn the business of farming as he grows. (5) Is the boy's program a diversified one? With a well-rounded, diversified program the boy will grow into farming much faster and will gain the confidence of his parents in his farming program. (6) Will this program fit into the boy's home, farm, and community?

Example

Below is a typical practice program by years.

First year:

1. Livestock or poultry (one of these—depending on the boy's interest)
 - a. A gilt for brood sow
 - b. A Jersey heifer for milk cow
 - c. A beef heifer for beef cow
 - d. One hundred baby chick pullets for hens
2. Field crops—5 acres
 - a. Cotton for lint production—two acres
 - b. Corn or oats—two acres for grain to be fed to livestock or poultry

- c. Hay crop—one acre if needed
3. Home improvement
 - a. Home orchard—25 trees
 - b. Home garden—one-half acre
 - c. Home beautification

Second year:

1. Livestock or poultry
 - a. Sow
 - (1) Gilt for brood sow
 - (2) Seven pigs for pork
 - b. Jersey cow for milk production
 - (1) Calf for maturity
 - c. Beef cow for calf production
 - (1) Beef calf for maturity or to be fed out
 - d. 50 hens for egg production
 - (1) 100 pullets for hens
 - (2) 100-500 broilers
2. Field crops—5-10 acres
 - a. Cotton
 - b. Corn or oats
 - c. Hay
3. Home improvements
 - a. Home orchard—25 trees
 - b. Home garden—one-half to one acre
 - c. Improve home conveniences

Third year:

1. Livestock
 - a. Two sows
 - (1) Gilt
 - (2) 23 pigs for pork
 - b. Jersey cow
 - (1) Heifer for milk cow
 - (2) Calf for maturity
 - c. Beef cow
 - (1) Heifer for beef cow
 - (2) Calf for maturity or to be fed out
 - d. 100 Hens for egg production
 - (1) 200 pullets
 - (2) 500 broilers
2. Field crops—10 acres
 - a. Temporary pasture
 - b. Corn or oats
 - c. Hay
3. Home improvements
 - a. Home orchard—50 trees
 - b. Home garden—one-half to 1 acre
 - c. Improve home conveniences

(Continued on page 76)

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Example

I have in one of my classes a boy of an excellent type who lives with his aunt and uncle. His uncle has a small farm. The land is poor, but he has some good tobacco soil. The uncle is of the old school and does not believe in "new fangled" ideas, such as side-dressing tobacco or top-dressing any kind of grass crop. When I first started to supervise the boy's projects, the entire family was disinterested and unconcerned, almost to the point of rudeness at times. However, knowing the boy was good timber, I kept on working with him. Two years ago this boy received permission from his uncle to work his one acre of tobacco as he wished, so we carried out a few modern methods. Nature being very obliging, the crop grew abundantly. It even rained just after we had side-dressed the tobacco. The result was that the tobacco grew so well

that the uncle invited neighbors in to see the project. No visitors could get away without seeing the crop. When I made my visits, he always insisted on accompanying his nephew and me to inspect the progress of "our crop," as he now called it. During the past year the uncle followed our method of tobacco culture and now has an excellent crop in his barn.

During the first year, the boy grew \$95 worth of tobacco on his acre. The second year he grew a \$340 crop. In all his project work, both tobacco and poultry, he has earned more than \$850 in the three years of farm practice, and still has his fourth year to look forward to. This year's crop will be on an enlarged scale. He will have also a poultry project of 200 hens.

This pupil's project work was so suc-

cessful that his uncle has built a new poultry house 18 x 30 ft. He built the most modern-type chicken house, and has filled it with modern equipment.

State Farmer

The past year this boy was raised in rank to a Maryland Farmer, and his uncle and aunt are very proud of their nephew.

This supervisory practice work requires patience, diplomacy, and, above all, plenty of hard work. A close check-up means the difference between success and failure.

In the preceding example, the success, I'm sure, was not only in the excellent results obtained by the boy but also in the benefit derived by the uncle. Furthermore, not only was the effect favorable in respect to the uncle's enlightenment but also in the influence on the neighborhood farmers. In addition, it gained no small amount of prestige for the F.F.A. chapter of our high school.

Methods of Setting Up Projects

C. R. RABB, Teacher, Hillsboro, Texas

EACH fall when school opens the first-year boys' question is, "What do I have to carry as a project?" I keep putting the boys off for about the first four weeks of school until they are ready to answer the question for themselves.

Helping Boys to Make Decisions

This is the way I help the boys make their decisions: (1) We determine the cost of production for the leading enterprises of our community; (2) we study the records of projects of previous years; (3) I ask the boys this question, "In what projects are you interested?" In my opinion this is the most important point for a teacher to consider in helping a boy select his project program. By all means be sure that you have found the boy's interest before you encourage him in a program. (4) Will his interest grow? This is a phase of guidance that must be handled very cautiously or else the student will likely get into a program that will be too costly for him. Let the boy gradually grow and learn the business of farming as he grows. (5) Is the boy's program a diversified one? With a well-rounded, diversified program the boy will grow into farming much faster and will gain the confidence of his parents in his farming program. (6) Will this program fit into the boy's home, farm, and community?

Example

Below is a typical practice program by years.

First year:

1. Livestock or poultry (one of these—depending on the boy's interest)
 - a. A gilt for brood sow
 - b. A Jersey heifer for milk cow
 - c. A beef heifer for beef cow
 - d. One hundred baby chick pullets for hens
2. Field crops—5 acres
 - a. Cotton for lint production—two acres
 - b. Corn or oats—two acres for grain to be fed to livestock or poultry

- c. Hay crop—one acre if needed
3. Home improvement
 - a. Home orchard—25 trees
 - b. Home garden—one-half acre
 - c. Home beautification

Second year:

1. Livestock or poultry
 - a. Sow
 - (1) Gilt for brood sow
 - (2) Seven pigs for pork
 - b. Jersey cow for milk production
 - (1) Calf for maturity
 - c. Beef cow for calf production
 - (1) Beef calf for maturity or to be fed out
 - d. 50 hens for egg production
 - (1) 100 pullets for hens
 - (2) 100-500 broilers
2. Field crops—5-10 acres
 - a. Cotton
 - b. Corn or oats
 - c. Hay
3. Home improvements
 - a. Home orchard—25 trees
 - b. Home garden—one-half to one acre
 - c. Improve home conveniences

Third year:

1. Livestock
 - a. Two sows
 - (1) Gilt
 - (2) 23 pigs for pork
 - b. Jersey cow
 - (1) Heifer for milk cow
 - (2) Calf for maturity
 - c. Beef cow
 - (1) Heifer for beef cow
 - (2) Calf for maturity or to be fed out
 - d. 100 Hens for egg production
 - (1) 200 pullets
 - (2) 500 broilers
2. Field crops—10 acres
 - a. Temporary pasture
 - b. Corn or oats
 - c. Hay
3. Home improvements
 - a. Home orchard—50 trees
 - b. Home garden—one-half to 1 acre
 - c. Improve home conveniences

(Continued on page 76)

J. B. McCLELLAND

Farmer Classes

W. H. MARTIN

From Where They Are to Where They Want to Be

H. M. BYRAM, Teacher Education, East Lansing, Michigan, and

T. H. KERREY, Supervising Teacher, Olivet, Michigan

THE importance of considering farming status in planning supervised practice with young-farmer classes becomes apparent when the young men who make up these classes are compared with others with whom a teacher of agriculture works. The typical all-day class members are either at home with an allowance, or at home with income from one or more enterprises. While enrolled in all-day classes, boys seldom move out of the latter-named status, altho in a few cases father-son partnerships may develop at or soon after graduation from high school.

Members of adult-farmer classes are almost exclusively farm operators, usually as tenants or owners. The objectives of such classes do not involve progress from one status to a higher one, but rather relate to increasing the proficiency of the farmer in his current farming status.

Variability in Farming Status Shown by Surveys

Surveys of out-of-school young men on farms show, however, that the young-farmer group is very heterogenous as to farming status. In 1940, the writers summarized data from 472 young men on farms in Michigan which showed 41.2 percent at home with definite or indefinite allowance, or as farm laborers at home; 14.2 percent in partnership; and 12.5 percent at home with income from one or more enterprises.¹ Ekstrom, in reporting on 276 young farmers enrolled in part-time classes in Minnesota, found 66.7 percent at home with a definite or indefinite allowance; 27.9 percent in partnership on farms; and 26.1 percent at home with income from one or more farming enterprises.² To the extent that young farmers represented in these surveys are typical, it may be said that they are the most varied group, so far as farming status is concerned, of any farmer groups with whom the teacher of agriculture works in systematic instruction.

Progressive establishment in farming is one aim of instruction of young-farmer classes recognized by most leaders in agricultural education as of greatest importance. Young men who voluntarily enroll in systematic instruction for farming usually do so because they believe that such instruction may give them some help in making progress from where they are to where they want to be. This does



H. M. Byram

not imply that every year should see a young man move one notch up the ladder. Progress from one farming status to the next higher implies, as a prerequisite, growth on the part of the individual within a given farming status. Such progress may involve increasing assets in money, livestock, feed, or equipment; or it may involve improvement of some phase of planning with which the young farmer is connected.

Progress Within a Farming Status

What does this aim mean when applied to actual cases? Suppose that half of the members enrolled in young-farmer classes are working at home on an allowance. Most of these young men would be making progress toward a higher status if they were to invest some money in one or more enterprises and would conduct them profitably. We should expect at least half of the class to carry productive enterprise projects as a part of their supervised practice.

Eventually these young men, if they are to make further progress, should look forward either to the development of a farm partnership or to becoming an operator of an entire farm, probably as a renter.

From present sources of data it is not easy to ascertain how well the supervised farming programs of students in young-farmer classes reflect the aim of "progress within a farming status or toward a higher status." State and Federal reports do not call for the type of data which would show farming status "before and after" the course, nor such things as "number of father-son farm partner-



T. H. Kerrey

ships developed," altho the revised form of Evaluative Criteria prepared by the National Committee on Standards now provides forms for gathering such data in an individual department.³ However, Federal reports for 1939-40* on 22,446 young farmers enrolled for systematic instruction show 13,560 who conducted productive enterprise projects, some of whom also carried additional types. The remainder, with the exception of 838 who were placed for farm experience, carried on improvement projects or supplementary farm practices. Altho there may be considerable value in bringing about improvements in the farm business of a young man's father, such improvements may or may not represent progress toward establishment of the young man himself.

Developing Programs

In development of farming programs with an out-of-school young man the first question which should be considered is: What is this young man's farming status and how far has he progressed in it? Having determined these the next step should be to assist the young man in formulating his own objectives with respect to his program. The activities to be carried out should then reflect these two

(Continued on page 78)



Kenneth Moon and his cows

Suggested Objectives and Activities in Supervised Practice for Young Farmers in Part-time Classes

Farming Status ¹	Young Farmer's Immediate Objectives	Supervised Practice Activities to Realize Objectives
1. Farm laborer for wages at home.	1. a. To invest earnings satisfactorily. b. To make a start toward farming for himself. c. To help father improve farming business.	1. a. Select and purchase livestock, machinery, or equipment for farming. b. Conduct one or more productive enterprise projects. c. Conduct one or more improvement projects on the home farm, or carry out one or more approved practices.
2. Farm laborer away from home.	2. a. Same as 1. a. b. To improve or change farming status. c. To start farming.	2. a. Same as 1. a. (above). b. Secure better placement or develop apprenticeship. ² c. Rent or buy farm land and begin farming for self.
3. At home with definite or indefinite allowance.	3. a. To realize a return from labor on the home farm, on some other farm, or in related work. b. To make a start toward farming for himself to improve status. c. Same as 1. c. (above). d. To improve some part of the farming business.	3. a. Work out and put into effect a definite wage arrangement with father, or secure placement on farm where more desirable wage arrangement can be made, or secure placement in related work. ² b. Carry one or more productive enterprise projects. Secure placement as farm laborer or in related work. c. Same as 1. c. (above).
4. At home with income from one or more enterprises.	4. a. To increase income from enterprises. b. To add new enterprises. c. To progress in farming status. d. Same as 1. c. (above).	4. a, b, & c. Develop and put into effect a father-son farm partnership agreement and keep general farm accounts. ⁴ d. Carry additional productive enterprise projects. e. Same as 1. c. (above).
5. In partnership.	5. a. To improve the farming business. b. To get into farming for himself c. To make improvements in the partnership agreement.	5. a. Keep general farm accounts, carry out approved practices, start new enterprises, make use of production credit, invest earnings in farm business. b. Rent or buy land for farming. c. Adopt an improved, written agreement for the partnership.
6. Renter-operator.	6. a. To improve the farming business. b. To become an owner-operator of a farm.	6. a. Same as 5. a. (above). (Similar to a member of adult-farmer class.) b. Buy land for farming.
7. Owner-operator.	7. To improve the farming business and increase efficiency in farming.	7. Same as 5. a. (above). (Similar to a member of adult-farmer class.)
8. Other status: employed in non-farming occupation.	8. a. To invest earnings satisfactorily. b. To make progress toward farming or establishment in related occupation.	8. a. Select and purchase livestock, machinery, equipment, or land. b. Secure indenture as an apprentice, ² secure placement as farm laborer or in related agricultural work.
9. Other status: employed in occupation related to farming.	9. a. To gain a better understanding of farming problems. b. To improve his efficiency on the job. c. To become established in farming. ⁴	9. a. Secure part-time placement in farming, carry on a productive project, become active in young-farmer organizations. b. Carry out approved practices. ⁵ c. Same as 2. b. or 2. c. (above).
10. Other status: unemployed.	10. To get a job in which farm experience and training will be of value.	10. Same as 8. b. (above).

1. If a young farmer is in one status part of the year and in another status at another time of year, the suggested activities for more than one status will need to be considered.
2. See Bulletin No. 253, "Apprentice Training in Agriculture." State Board of Control for Vocational Education, Lansing, Michigan.
3. The arrangement put into effect should represent a substantial improvement in farming status. Provision should be made for a share in the returns from the farm and a share in the managerial responsibility. The arrangement should provide opportunity for the young farmer to put into effect the practices studied in the course.
4. A young man might have all of these objectives or he might have only one or two.
5. Examples: (a) Cow tester relaying feeding practices.
(b) Worker in farm elevator improving service in supplying feeds and fertilizers.
(c) Worker in stockyards carrying out approved practices in livestock loss prevention.

Farm Mechanics

L. B. POLLOM

A Threefold Agricultural Defense Program in Farm Mechanics

W. C. DUDLEY, Teacher, Appomattox, Virginia

"If I had not been able to use the agricultural shop to repair my farm machinery, I would not have been able to meet the production goals for this year." This statement was made by one of the 18 farmers who participated in the farm-machinery repair program at Rustburg, Virginia, in discussing the usefulness of the school shop to the community. His comment is typical of the reaction of the entire group and summarizes one phase of the threefold farm mechanics program being promoted by J. R. Gardner, teacher of agriculture. In addition to the repair program for farmers the Rustburg department of vocational agriculture is conducting an active farm-machinery repair program thru its all-day classes and a national defense pre-employment class in metalwork.

Farmers Do Their Work

Farmers are enrolled in the farm-machinery repair course with the understanding that they are to do all of the repair work with the technical advice of the instructor. Jobs which require spe-

the adult and all-day programs were summarized as follows: reconditioned one wagon, five mowing machines, three grain drills, seven corn planters, 40 cultivators, two hay rakes, four disk har-



Boys overhauling cultivator



Repairing a spring-tooth harrow

cial skill are done by the defense class and are handled in such a way that the regular routine of this class is not disturbed. Systematic procedure, such as cleaning the machine, checking each part for wear, and listing new parts required, is followed at all times. Supplies such as bolts, rivets, paint, and nails are furnished to the farmers at cost.

Emphasis is placed on farm-machinery repair as a defense measure or as a means of producing food for freedom, both in all-day and adult classes. Every student has overhauled at least three machines. On March 1, 1942, the tangible results of

rows, four spike-tooth harrows, four spring-tooth harrows, eight walking plows, and 10 miscellaneous machines.

Co-operating With Other Classes

The national defense class which used the shop integrated its activities with the farm-machinery repair courses to the extent that actual jobs in welding, lathe and bench work are done in place of set exercises. This correlation has been successful and has benefited the evening-class members as well as the members of the out-of-school defense class.

Excellent Facilities

This threefold farm mechanics program is conducted in a new 54-x-50-foot shop that is a monument to the vision and industry of J. R. Gardner, Instructor in Vocational Agriculture in the Rustburg and Concord Departments, and of his division school superintendent, John L. Fray. Mr. Gardner has the largest and best-equipped agricultural building in Virginia. The shop program is playing

an important role in developing the school as the center of educational activity in the community, and is setting the pace for similar programs that are being developed in the other agricultural high schools of the state.

NOLAN SCREENINGS

Philosophies are always seeking to lead us to the realities of life. Not all things that are visible are to be judged by the outward manifestations. There is often a hidden, invisible cause of the outward phenomenon. This invisible reality, causing the phenomenon, we call *Neumenon*. Light is a phenomenon, electricity is the *neumenon*. The rose is a phenomenon, life is the *neumenon*. Let us apply this principle to the teacher of agriculture. His classroom methods, his relationships with the boys, his supervised farming, his adult education program, his community relationships,—all these things are the outward expressions of what the teacher *knows* and *is*. It is what we *are* that determines what we do. If the *neumenon* of the teacher be a soul of wisdom, ethical character, service, and good will, a splendid program of high educational service will follow, as the day follows night.

Getting Out of the Shop Rut

FLOYD M. SMITH, Teacher, Riley, Indiana

WHEN I began teaching vocational agriculture I conducted my farm shop like a few others with which I was familiar. We did rope work, soldering, built a fire in the forge, made a chain link, and did the many other little jobs that usually come under farm shop work. If the boys worked in the shop two days a week they soon ran out of something to do.

New Type Shop Course

Feeling that this type of shop was inadequate and that the boys failed to receive much knowledge which could be carried back to the farm, I decided to change the shop into one which would be more practical and useful to the farm boy.

My shop was like many others in that the shop was in the back of the room and classes were held in the front. In the last two years the shop work has been increased until the classes have been pushed out of the room, and the entire room, which is 24' x 45', has been turned over to the shop and classes are held in another room.

Organization of Class Work

The plan for the shop work which is now carried on consists of planned work for the freshmen and sophomore boys and a creative shop for the juniors and seniors. In the freshman and sophomore years the boys do rope work, wood work, and many other little jobs. Part of this work is done by the boys and part of it is in the form of demonstrations. The junior and senior boys work in the shop the second semester of each year, which gives them the equivalent of one whole year's work in shop. The boys must bring in work to do. Nothing is provided for them. If they fail to find farm machinery at home which needs repairing, they are allowed to overhaul farm machinery for a neighbor.

Kind of Work Done

We do the shop work in a way that is very similar to the way it would be done on the farm. A boy cannot make a chain link just to be making a chain link, but he must bring in the broken chain and put it together. Following is a list of a few of the many things we have done in the shop:

(1) Made a tractor trailer, (2) set jointers on new plows, (3) put new boxing in a disk, (4) sharpened the teeth of six harrows, (5) spliced two hay ropes, (6) put a power lift on a harrow, (7) overhauled a side delivery rake, (8) made two wagon beds, (9) overhauled two running gears of wagon, (10) overhauled a corn planter, (11) overhauled a tractor plow, (12) cleaned the motor, greased, and oiled eight tractors, (13) fixed an electric iron, (14) overhauled a washing machine, and (15) built chicken feeders and hog feeders, and many other small jobs for the farm boy and the farmer.

Boys Enjoy Work

I find that the boys enjoy this work, and many pieces of farm machinery are repaired which otherwise would not be. It is a set rule that all machinery brought

in must be painted. The owner furnishes the paint and any parts which must be replaced.

We do not work on tractor motors. Also, I would like to add that boys are not allowed to bring in their old jalopies to strip them down for racers.

To equalize the work and experience, the boys work on different farm implements. For example, if a boy brings in a harrow, he is assigned two boys to work with him replacing bolts, sharpening teeth, setting teeth, and painting. Then if one of these helpers brings in a harrow, the boy owning the harrow is appointed as the overseer and is assigned three boys who have never worked on a harrow to help him repair it. In this manner all the boys get to work on many different implements during the two semesters.

Shop Facilities

My shop and equipment are by no means elaborate. They are no better than can be found on many farms. The equipment consists of a forge, three vises, two large work tables, about \$100 worth of tools, and a few odds and ends such as paintbrushes, buckets, etc. Sometimes the boys bring tools from home to supplement these. The shop room itself has one large door 16' x 12', 7 windows, 60" x 42", a blackboard, 20' x 46', a bulletin board, 5' x 3', 4 tool chests, an anvil, drill press, and sink.

The shop has been very successful; two proofs of this are the large number of farm implements we have repaired, and the fact that three of the boys now have farm shops of their own.

Farm Mechanics Training Courses for Idaho Instructors

H. A. WINNER, Teacher Education
Moscow, Idaho

IN ORDER that the vocational instructors in Idaho may be of more service to their communities, the State Department for Vocational Education arranged for five Farm Mechanics Schools thruout southern Idaho this past summer. These schools were held from June 8 to June 26 and all instructors were required to attend.

The courses were given at Sugar City, Firth, Downey, Jerome, and Meridian, by instructors who had been working with the Out-of-school Youth Program the past year. Included in the program were the operation, care and repair of tractors, trucks, and automobiles, blacksmithing, oxyacetylene and arc welding, tempering, and farm-machinery repairing.

In most cases the schools were held in the evenings so that the instructors did not have to be away from their work during the day. When the distance was too great for the instructors to drive back and forth during the evening, they remained for about eight days and were given full-time instruction.

The men were very enthusiastic about the courses and declared them to be most helpful. All felt that a much better program in Farm Mechanics could be put on in their respective communities due to the training which they received in the three weeks' period.

How Shall I Sell?

(Continued from page 65)

markets it will be the greatest mistake they have ever made." He meant every word of his statement.

The public livestock markets are really the sales department of the livestock industry. No important business would consider operating without a strong sales department or leaving its selling to new, untrained salesmen.

Conclusion

No one knows all about livestock marketing, but hundreds of thousands of livestock producers know more about livestock marketing today than stockmen have ever known before. There are two ways of learning—by reading or by seeing and doing. Both are good, but you never really know any business until you know representative men who are in that business. So you do not really know livestock marketing until you get into the markets, get to know both buyers and sellers, and see how the business is done.

Visit livestock markets—all kinds of them—at every opportunity. Get acquainted with as many men in the trade as you can. You will find them worth knowing.

Numerous public stockyards have initiated definite programs for helping vocational agricultural students to learn more about livestock marketing—among them Fort Worth, Denver, South St. Paul, Chicago, and others. More will likely do so.

Vocational agriculture students can be of real service in their communities if they will learn as much as possible about livestock marketing and work with others in their communities in bringing about more effective livestock selling.

Book Review

The Story of Meat, by Robert B. Hinman & Robert B. Harris. Pp. 291, illustrated, published by Swift & Co., Chicago, Illinois. Second printing 1942. While the list price is \$1, free copies are available to vocational agriculture instructors as long as the supply lasts. The book gives in brief form a background of history, economics, and nutrition so that the place of meat in the development of our civilization and the many problems connected with its production, processing, and distribution are brought out in proper perspective. Interestingly written, profusely illustrated, this book will prove of value to both the student and his teacher.—A.P.D.

The best that education can do for a man is to put him in possession of his powers, give him the control of the tools with which destiny has endowed him, and teach him how to think.—Henry Ford

Studies and Investigations

C. S. ANDERSON

The Montana Farm Mechanics Program

W. J. WELKER, Montana State College

ON SEPTEMBER 1, Henry Puddle, a 15-year-old farm boy, hung up his dirty overalls, dug the hay seeds from his ears, combed his hair, and enrolled as a freshman in vocational agriculture in the high school at Puddleville, U. S. A. Hank was especially interested in farm mechanics. He had been told that farm mechanics in vocational agriculture would be practical. He expected that he would be encouraged to bring numerous shop jobs from home to the school shop for completion. He also expected that he could learn to do better the jobs his father had him do at home. Hank hoped that the instructor would come to his home farm and help him and his father improve their home-farm-shop facilities.

By the time Hank reached his third year of agriculture, he began to wonder when he would get to do some of the farm shop jobs that he thought the vocational agriculture course contained. Alas! When he finished the fourth year of the agricultural course, Hank realized that he had spent most of his school shop time doing exercises and jobs supplied by his instructor. These jobs were a different type of farm shop work than his father had him do at home, and the instructor had done little to encourage a home-farm-shop improvement program.

Hank Puddle might have been almost any one of 364 farm boys studying vocational agriculture in Montana in 1940-41, whose farm shop programs were studied by this writer. This article and subsequent articles will point out that many vocational agriculture instructors have been working under a delusion as to the kind of mechanical jobs their students do on the farm. From the results of his study, the writer believes that vocational agriculture instructors generally should seek the answers to the following questions about our farm mechanics programs.

1. To what extent do students in vocational agriculture bring farm shop jobs from their home farms to the school shop for completion?
2. What type of farm shop jobs do students do at home as they assist with the general farm work at their home farms?
3. What is the relation between the type of jobs completed at home and the type completed in the school shop?
4. Who teaches the students to do the jobs that they complete at home?
5. How many students have a good shop at the home farm in which they may work?
6. What does the home shop provide



W. J. Welker

Mr. Welker's experience as a vocational agriculture shop instructor in high school and as an instructor of advanced farm shop courses during two college summer school sessions caused him to question the extent of "carry-over" of vocational agriculture farm shop instruction to the home farms of agriculture students. This problem of "carry-over" was studied by Mr. Welker during the time he was a graduate assistant in the Department of Agricultural Education of Montana State College. Pertinent questions relating to the farm mechanics program in Montana and the United States in general have been posed. The answers to these questions and the conclusions of his study point to a definite lack of "carry-over." This article and subsequent articles deal with the findings of his study as well as means by which the farm mechanics program may be improved.—

Editor

in tools and equipment with which the student may work?

7. How many students in vocational agriculture establish a shop on the home farm or improve the existing shop while they are in high school?

8. What efforts do vocational agriculture students make to maintain or improve home-farm-shop facilities while in high school?

The answers to these questions were sought by this writer in a study of 364 students in 11 superior departments in Montana in 1940-41. The study may not be typical of conditions in other sections of the country, but there is reason to believe that it applies to programs in other states as well as Montana.



Shopwork

Farm Shop Experiences of All-Day Students

Vocational agriculture students are encouraged to bring problems concerning their agricultural projects to the

classroom for solution. Does this not suggest that farm shop problems and farm shop jobs could also be brought from home for solution and completion in the school shop? This is certainly in keeping with the basic principles of vocational education.

Table I clearly indicates that many of the farm shop experiences of Montana vocational agriculture students are not acquired as vocationally as they should be. As an answer to the question, "To what extent do vocational agriculture students bring jobs from their home farms to the school shop for completion?" it is worth noting that of 6,285 student job experiences 73.3 percent (4,610) were acquired on jobs that did not come from the students' home farms.

The large number of student job experiences supplied by the instructors and the small number supplied by the students (see columns II, III, and IV, Table I) is significant. Besides detracting from true vocational teaching, it is an indication that vocational agriculture farm shops may be a place where students do exercises, or a place where school patrons may get free work done. Neither of these types of shop work will develop student responsibility in supplying shop projects or in initiating a farm mechanics supervised practice program.

A careful comparison of columns I and II of Table I will show, as might be expected, that students encounter more jobs at home from which they gain mechanical experiences than they encounter in the school shop.

It may be assumed from column I that the farm shop experiences that vocational agriculture students have at home are acquired on jobs that are essential to home farm operations; otherwise these



Shop activity

jobs would not be attempted. It may also be assumed that the most important phases of home-farm mechanics are those in which the students are permitted or required by their fathers to participate to the greatest extent. The data in columns I and II show that there is quite a difference in the type of farm shop work that vocational agriculture students do at home and the type we have them do in the school shop.

Even tho tool sharpening does actually rank first in columns I and II, the similarity ceases with the ranking. The tool sharpening as carried on in the school shop consists largely of sharpening car-

penry and woodworking tools plus axes and hatchets. On the home farm the students do not sharpen as many tools of this type but they do sharpen many other kinds of tools.

Carpentry and wood work rank second, both at home and in the school shop. Beyond this there is no important degree of similarity between the farm shop work done in the school shop and the farm mechanics at home.

We should also note that vocational agriculture students are required to do considerable work at home in repairing farm machinery, gas engines, and tractors; yet we teach only very little of this type of work in the school shop.

In 1928 Sutherland¹ reported that 290 Montana farmers thought gas engine, auto, and tractor repairing, and overhauling of farm machinery, were the most important types of instruction that should be given to vocational agriculture students. A look at Table II shows that the home-farm mechanics activities of vocational agriculture students in 1940-41 are very similar to what the 290 farmers thought should be taught to their sons.

In order to discover whether the farm mechanics course of study has undergone significant changes during the last

Table III. Relative Importance of 14 Types of Farm Mechanics Work in School Shop in Montana Based on Student Job Experiences in 1940-41 and Projects Taught in 1928-29

1940-41 School Year*		1927-28 School Year*	
Types of Farm Shop Work	Student Experiences	Types of Farm Shop Work	Projects Taught
1. Tool sharpening	1246	1. Carpentry & woodwork	1726
2. Carpentry & woodwork	1030	2. Tool sharpening	1162
3. Forging	826	3. Forging	470
4. Soldering & cold metal	676	4. Harness & leather work	244
5. Rope	612	5. Glazing	177
6. Drawing & bills of mats.	444	6. Rope	140
7. Glazing	330	7. Soldering & cold metal	95
8. Gas engine & tractor repair	304	8. Gas engine & tractor repair	51
9. Farm machinery repair	183	9. Farm machinery repair	46
10. Harness & leather work	176	10. Plumbing	44
11. Concrete and masonry	137	11. Concrete and masonry	18
12. General improv. jobs	132	12. General improvements	1
13. Plumbing	129	13. Electric wiring	1
14. Electric wiring	60	14. Drawing and bills of mats.	(Unreported)

*Taken from Column II, Table I.

**Taken from Table IV, page 25, of the Sutherland study.

decade, a part of the data of the Sutherland study was rearranged. These data concern farm shop projects that were

being taught in Montana at the time the Sutherland study was made. Sutherland divided the projects into 26 different phases of farm shop, while this writer condensed them into 14 phases. We may then compare these with the types of experiences that students received in the school shop during 1940-41 (see Table III). It is quite evident that the emphasis placed upon the various types of farm shop instruction has changed in only a few respects. Gas engine, tractor, and farm machinery repair ranked eighth and ninth at both dates. These are the units that 290 farmers ranked as the most desirable types of farm shop instruction. These units of farm shop are essential in today's modern farm. Our students are doing these necessary jobs at home even though we offer them almost no help at school.

Conclusions

We may thus draw the following conclusions from this study.

1. Vocational agriculture students bring relatively few farm shop jobs from home to the school shop for completion. Hence carry-over of our instruction to the home farm is small in this respect.

2. With a few exceptions, the types of farm shop work that vocational agriculture students do at home are not the types of work that are emphasized in the school shop. This is especially true of such types of shop work as gas engine, tractor, and farm machinery repairing, and general farm tool sharpening. We therefore dare not lay very much claim to carry-over in this respect.

3. Vocational agriculture students get many more farm shop experiences at home than they get in the school shop. This is not only true of the various types of farm shop but is also true of the experiences within each type. It seems correct to assume that the standards of workmanship in the school are acceptable. The data of this study do not give an indication of how well vocational agriculture students do the many farm shop jobs they do at home. This writer's experience in observing many farmers and their sons doing repair jobs at home leads him to believe that there is a need for instruction as an effort to improve the standards of

(Continued on page 77)

Table I. Total Number and Relative Importance of Student Experiences in 14 Types of Farm Shop Work in 11 Montana Departments of Vocational Agriculture—1940-41 School Year

Type of Farm Shop Work	I		II		III		IV	
	Total Number and Relative Importance of Experiences							
	At Home		In the School Shop					
			All Experiences		Not From Home		From Home	
	Rank	Number	Rank	Number	Rank	Number	Rank	Number
Tool sharpening	1	1429	1	1246	2	754	1	492
Carpentry and woodwork	2	1400	2	1030	1	791	3	239
Farm machinery repair	3	1308	9	183	9	141	9	42
Gas engine and tractor repair	4	1008	8	304	8	142	4	162
General improvement jobs	5	835	12	132	12	102	11	30
Harness and leather work	6	671	10	176	13	100	7	76
Glazing	7	617	7	330	7	296	10	34
Concrete and masonry	8	426	11	137	10	127	14	10
Soldering and cold metal	9	414	4	676	5	534	5	142
Rope	10	407	5	612	4	543	8	69
Forging	11	369	3	826	3	577	2	249
Plumbing	12	358	13	129	11	103	12	26
Electrical wiring	13	342	14	60	14	43	13	17
Drawing and bills of materials	14	146	6	444	6	357	6	87
TOTAL		9730		6285		4610		1675

Table II. Relative Importance of Types of Home-Farm-Shop Activities Engaged in by 344 Vocational Agriculture Students in 1940-41 and the Relative Importance of Types of Farm Shop Activities That 290 Farmers Thought Should Be Taught to Vocational Agriculture Students in 1928

Home-Farm-Shop Activities of 1940-41*		Farmers Recommended Be Taught in 1928**	
Rank	Type of Activity	Rank	Type of Activity
1.	Tool sharpening	1.	Gas engine, auto, and tractor repair
2.	Carpentry and woodwork	2.	Overhauling farm machinery
3.	Farm machinery repair	3.	Farm building repair
4.	Gas engines and tractor repair	4.	Tool sharpening—including saw filing
5.	General improvement jobs	5.	Repair projects in forge work
6.	Harness and leather work	6.	Setting up new farm machinery
7.	Glazing	7.	Belt lacing
8.	Concrete and masonry	8.	Repairing fences and gates
9.	Soldering and cold metal	9.	Rope work
10.	Rope	10.	Babbling
11.	Forging	11.	Farm building construction
12.	Plumbing	12.	Harness repair
13.	Electric wiring	13.	Electric wiring
14.	Drawing and bills of materials		

*Taken from Column I, Table I.

**Taken from Table IV, page 25, of the Sutherland study.

Future Farmers of America

A. W. TENNEY

Fort Collins F.F.A. Boys Are Helping to Win the War

G. A. SCHMIDT, Teacher Education, Colorado State College

UNDER the splendid leadership of Thomas Duffey, instructor in vocational agriculture at the Fort Collins High School, the local chapter of the Future Farmers of America is setting an outstanding example of what high-school boys are doing to help win this war.



G. A. Schmidt

Scope of Program

Mr. Duffey has 35 boys enrolled in his vocational agriculture classes at the high school. In the classroom these boys are studying how to farm, and on their home farms they are putting into practical use many of the things they are learning in the classroom. They are at present carrying on their home farms 66 supervised home projects in agriculture. Fifty-one of these are livestock projects, 15 are crop projects. The livestock projects represent a total investment of approximately \$10,600. Far more important than the matter of invested capital, however, is the amount of needed foodstuffs these boys are producing in their livestock. A summary of these livestock projects may be found in Table I.

Value of Crops

Fifteen of the 35 boys who are carrying on one or more livestock projects are also farming approximately 200 acres of land.

They are producing the kind of crops encouraged and asked for by the Government to meet present wartime needs. A summary of these crop projects may be found in Table II.

A very conservative valuation of the products these 15 Future Farmers will produce in their crop projects is \$7,900. One item of production alone, namely, 45 tons of sugar, is going to supply hundreds of our soldiers with this essential food material.

Increasing the Swine Program

Mr. Duffey also submits the following item: "It is likely that 10 more head of registered swine will be purchased by some of these boys before the close of school. This will involve five boys who do not at present have swine projects and two boys who do have swine projects. If this plan is carried out, 19 of the Fort Collins High School boys will own 32 head of breeding swine at the close of school." That means that eventually these young high-school boys will produce enough pork products to supply hundreds of our soldiers.

Other Activities

Along with this record of food production, these same 35 boys are doing many other outstanding things. They have invested \$1,139, all their own earnings, in War Bonds and Savings Stamps. They have collected and sold 4,200 pounds of scrap iron, 650 pounds of old rubber, and 510 burlap sacks.

Not only are these 35 boys producing, conserving, and saving at the time of their

nation's great need but they are also learning many practical and useful things. These activities are steadily developing them into future efficient American farmers and fine American citizens.

It is no exaggeration to state that it would be very difficult to find a group of 35 boys enrolled in any other high school, in classes other than those in vocational agriculture, which can show such an outstanding record of achievement as the F.F.A. boys in Fort Collins have made.

Methods of Setting Up Projects

(Continued from page 69)

Fourth year:

1. Livestock
 - a. Two sows
 - (1) Four gilts
 - (2) 20 pigs for pork
 - b. Two Jersey cows
 - (1) Heifer for milk cow
 - (2) Two calves for maturity
 - c. Two beef cows
 - (1) Heifer for beef cow
 - (2) Two calves for maturity or to be fed out
 - d. 200 hens for egg production
 - (1) 500 pullets
 - (2) 1000 broilers
2. Field crops—25 acres
 - a. Cotton
 - b. Temporary pasture
 - c. Corn
 - d. Oats
 - e. Hay
3. Home improvements
 - a. Home orchard—50 trees
 - b. Home garden—one-half to one acre
 - c. Improve home conveniences

At the end of the fourth year the boy has grown to the point that he is ready to establish himself in farming.

I always let the boy plan his own program as far as possible and by all means I let the boy do the convincing of his dad about his program. This gives the boy more confidence in himself and more interest in his work. Get the boy to realize that he can make his spending money and clothes from a well-planned program. He will use these to convince his parents. This will eliminate a lot of so-called begging by the teacher and boy.

I use another method to get the so-called loafer or disinterested boy to carry a better project program. I require a supervised farming job program set up and carried out by the boy with these minimum requirements:

Projects	Jobs
1 project.....	15 jobs
2 projects.....	12 jobs
3 projects.....	9 jobs
4 projects.....	5 jobs
5 projects or more.....	0 jobs

This works very successfully for me and in many cases gets a lazy boy started into a good program that creates interest. The better boys are going to do plenty of supervised farm jobs without forcing them to have a minimum number of jobs.

Table I. Summary of Livestock Projects

Number of Boys	Number and Kind of Animals	Estimated Production
2	355 feeder lambs	14,200 lbs. mutton
2	31 grade ewes	3,000 lbs. mutton
1	8 reg. ewes & buck	1,000 lbs. mutton
3	3 dairy cows (1 reg. 600 lb.)	20,000 lbs. milk
3	100 laying hens	1,200 doz. eggs
7	27 steers	16,000 lbs. beef
3	5 reg. Hereford heifers	3,000 lbs. beef
3	300 baby chicks	275 birds
13	80 feeder pigs	12,000 lbs. pork
14	22 sows and gilts	26,000 lbs. pork

Table II. Summary of Crop Projects

Number of Boys	Acreage and Crop	Estimated Yield
5	106 acres of corn	5,300 bu.
4	19 acres sugar beets	285 tons or 45 tons sugar
2	13 acres oats	780 bu.
1	1 acre cherry orchard	1,000 lbs.
2	1½ acre truck and vegetables	Hard to estimate
1	80 acres pinto beans	40,000 lbs.

Idaho F.F.A. Fat Stock Show

H. A. WINNER, Agricultural Education, University of Idaho

DURING the fall and winter of 1940 some of the vocational agriculture teachers in southeastern Idaho discussed the need for a show where boys could market their livestock advantageously. A few instructors talked the situation over and decided to do something about it. Each instructor chipped in 50 cents to get enough postage to send information to chapter members in regard to the show.

As the ball started rolling, the Idaho Falls Chamber of Commerce and the Idaho Falls Livestock Commission Company became interested and helped in getting things started. The above concerns agreed to see that enough money was provided the first year for premiums and other expenses of the show. The first Idaho F.F.A. Fat Stock Show was held the latter part of April, 1940, and was a success.

Plan for the Show

This year the third show of its kind was held and netted the F.F.A. members over \$7700. Stock which is graded and shown by the boys includes beef, sheep, and hogs. Animals are graded as Prime, Choice, and Good. No grand champion is chosen at the show in any class.

The first day of the show all animals are graded and the Fitting and Showing Contest for exhibitors is held. The second day the animals are put thru the sales ring and auctioned to the highest bidder.

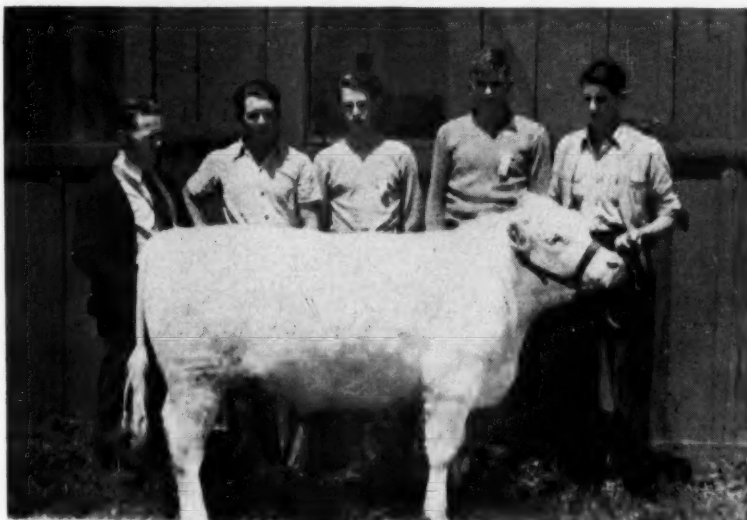
The boys received fine support this year from individuals and concerns that were buying.

Auction

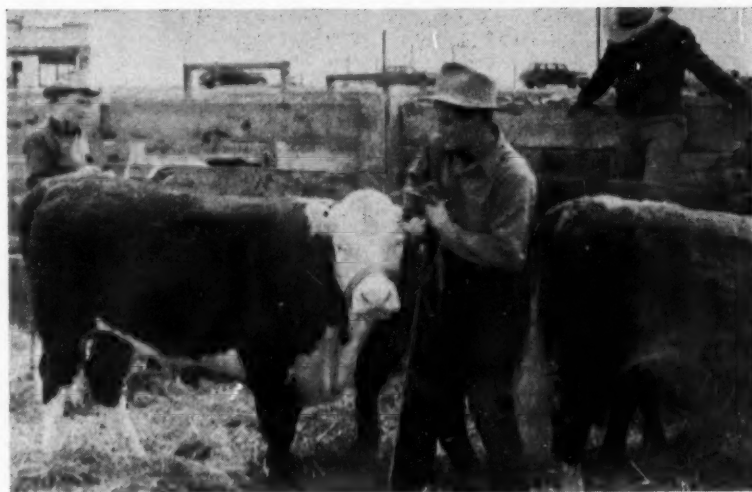
A feature of the show each year, and one which makes the show possible, is the auctioning of the top prime lamb several

times during the sale. The boy exhibiting the lamb receives the amount for the first sale, and then the lamb is put up for resale at various times during the auction of livestock.

This spring a prime 90-pound lamb owned by Kent Milligan of Idaho Falls brought \$32 per hundred for its owner, and was resold 79 times during the sale for a total of \$1084.50, which will be used to finance the show in 1943. Each person buying the lamb turns it back to the auction, and in turn receives a number



Mickey Fraker's steer



F. F. A. boys getting animals ready for show ring

The Montana Farm Mechanics Program

(Continued from page 75)

workmanship in the jobs on the farm.

4. The general pattern of the vocational agriculture shop program has undergone only a few changes during the last decade. The major changes involve less furniture-making in favor of more practical farm construction. The type of shop work still fails to meet the needs of the students.

5. Vocational agriculture farm shops are often places where school patrons may get free work done. This does not encourage student responsibility in supplying shop projects or in initiating a home-farm mechanics supervised practice program.

Another article, at an early date, will deal with the way in which our vocational agriculture students learn to do the farm shop jobs they do at home; the home-farm-shop facilities available to our students; the efforts that our students make to provide and maintain home-farm-

which entitles him to a chance on the drawing for the lamb after the last sale has been made.

Burk Clarke of the St. Anthony F.F.A. Chapter exhibited the prime Shorthorn steer, which brought a top price of \$24.50 per hundred. In the hog division, Dale Koester received the top price of \$20 per hundred.

All animals sold at the show this year brought well above market price. Bidding by packing companies and individuals pushed the price up in many instances.

Mr. Gardner, one of the original committee members and now Farm Security Supervisor at Burley, Idaho, presented a large loving cup for the chapter having the best representative exhibit in all divisions. The Idaho Falls chapter, under the supervision of Mr. Emory Howard, was awarded the cup, and the Blackfoot chapter, under the supervision of Alfred Funke, placed second.

Tentative dates for the show in 1943 have been set for May 4-5.

shop facilities and how these relate to carry-over. This will be followed by an article dealing with recommendations of ways to make our farm shop programs more effective.

1. Sutherland, S. S., "Farm Mechanics Courses for Montana High Schools," a mimeographed pamphlet, Department of Agricultural Education, Montana State College, Bozeman, 1928.

Agriculture is the most healthful, the most useful, and the most honorable employment of man.—George Washington

From Where They Are to Where They Want to Be

(Continued from page 70)

factors: (1) the young man's farming status and (2) his immediate objectives. The accompanying chart is presented to indicate how this might be done within the various farming statuses which might be represented in a given young-farmer class. To use this chart to formulate the broad outlines of a farming program, locate in column one the young man's farming status. In the corresponding place in the center column are listed several suggested immediate objectives. If these objectives fit the young farmer in question, the activities in the last column may be suggestive for the major phases of his program.

Illustrative Cases

Two examples may help to illustrate how this chart would apply in individual cases. They are young men who enrolled as members of a young-farmer class in Olivet, Michigan, where a new center for student-teaching was established last year and where a part-time class had not been held the previous year.

Kenneth Moon, age 16, dropped out of school during the ninth grade. A year later he enrolled in the part-time class. Since no vocational agriculture is offered in Michigan schools before the 10th grade Kenneth had developed no productive enterprise projects, altho he still owned a Jersey cow which he had raised while a 4-H Club member. He was essentially in the farming status of "at home with an allowance." His immediate objective, as set up with the guidance of the instructor and father, was "to improve the dairy enterprise" with the hope that it might be possible "to realize a return from labor on the home farm." His father told him he could go to work on one-half the herd of 21 cows housed at their upper farm. So Kenneth began by balancing rations.

His success with improvement of feeding led Kenneth's father to give him one-third the income from the 21 cows. This helped to introduce a new objective for Kenneth; namely, "to make a start toward farming for himself." At the writing of this article Kenneth has received about \$80, most of which he has

used to pay toward purchase of livestock and a tractor. He now has title to seven head of dairy cattle and a tractor on which he is making regular payments.

Kenneth's father indicated, at the most recent visit of the instructor, that he hopes Kenneth will continue to grow in farming ability and will eventually be able to take over the operation and management of the 160-acre farm as well as the dairy cattle housed on the farm.

Vincent Stegenga

Another member of the young-farmer class at Olivet this year was Vincent Stegenga, age 19. He was graduated from all-day classes in vocational agriculture in 1941 and has had, in addition, an eight-week short course in general agriculture at Michigan State College. When he enrolled in the young-farmer class he owned one brood sow which was a part of his supervised farming program carried in high school. His first objective was "to add new enterprises."

The past spring, with money received from his hogs which he raised from his sow, he bought 25 hives of bees. With these two enterprises for backing, Vincent was able to get enough financial help from the PCA to purchase five purebred Holstein heifers. He expects to pay for these heifers with the income from his bees and hogs.

Vincent feels that the income from his bees and five cows will give him an income sufficient to make staying on the farm a very attractive proposition until the time comes that the farm may have to support two families. Then it will be necessary to make an expansion of farm acreage and arrange some type of farm partnership.

If space permitted, examples of young men in other farming statuses might be used to illustrate how programs can be built in accordance with young men's immediate objectives, which are based upon the farming status in which they find themselves. Enough have been given, however, to show that successful farming programs for young farmers should start with their farming status and should move out from where they are to where they want to be.

1. H. M. Byram, *Out of School Young Men on Farms*, State Board of Control for Vocational Education. Bul. No. 274, Lansing, Michigan, 1941.

2. G. F. Ekstrom, "Personnel of Part-time Classes in Minnesota," *The Agricultural Education Magazine* XIV, (Jan. 1942) 135.



Vincent Stegenga

3. *Evaluative Criteria for Vocational Education in Agriculture*, Washington: American Vocational Association, 1942.
4. Data supplied by F. W. Lathrop, U. S. Office of Education, Washington, D. C.

An Analysis of Swine Project Records

(Continued from page 67)

lowed as in Table III. The association of results with practices followed can be used as a very effective teaching device in getting boys to do a better job. Apparent inconsistencies in the analysis can be explained quite often when the practices are known. For example, we may wonder why the average selling price in project number 3 in Table II is higher than any of the other projects. By referring to the practices in Table III we have the answer in that five gilts and a boar were sold for breeding purposes.

4. Build Tables Showing Relationships of Important Factors to Other Efficiency Factors

It seems that we would be stopping short of a complete analysis if we did not make further use of the basic data that is provided in Table III. Many times teachers have use for data which show such facts as the relative importance of raising large number of pigs per litter, the relative importance of keeping the cost of production low, or the relative importance of securing a large return for each one dollar's worth of feed used. In the Canal Winchester study tables showing these relationships have been made each year. Table IV shows the relationship of returns per \$1 of feed used in the breeding to marketing period to other efficiency factors. Incidentally, the returns per \$1 of feed are one of the most significant efficiency factors. In this factor we have efficiency of production from the standpoint of converting feed into pork and efficiency of marketing combined into one. It is true that labor is not considered, but usually in pork production this is a minor cost, whereas feed represents about 80 percent of the total cost.

General Conclusions

As a result of making analyses as outlined previously and using them in teaching, the author has arrived at the following general conclusions:

1. Local project data have no substitutes as an aid in teaching.
2. If a record is to serve as a basis for further improvement it needs to be analyzed in terms of efficiency of production and practices used.
3. Records must be complete and accurate if the analysis is to be worth while.
4. All projects must be considered in making an analysis to show the total or average result.
5. An accumulative record of practices and correct analysis material should be kept during the year to provide for a more complete and accurate final analysis.
6. Efficiency of production is associated with good practices.
7. Good practices are due to correct decisions made during the entire year.
8. The teacher should teach the boy to make correct decisions in his farming program. This is necessary if we are to accomplish our primary aim in vocational agriculture—that of training for proficiency in farming.

